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THE POWER OF SMARTHEAT

HIGH THROUGHPUT AT LOW TEMPERATURES

Everyone claims their soldering iron offers the latest technology to help you do your job better. But only Metcal Systems have demonstrated superior performance and ease-of-use. In test after test, Metcal provides unparalleled performance in a wide range of applications.

JOINTS SOLDERED PER HOUR AT 625°F

METCAL	233
CONVENTIONAL A	176
CONVENTIONAL B	135
CONVENTIONAL C	114

One of the key requirements in forming a strong solder joint is raising the connection temperature to the proper level for the proper amount of time. So, conventional soldering iron manufacturers have spent a lot of time and energy on the accurate and precise control of tip temperature.

However, this focus on controlling tip temperature to yield strong solder joints assumes that perfect tip temperature control equals perfect connection temperature. This is not necessarily the case!

Why? Because different solder joint loads require different amounts of heat to reach the right connection temperature. Even if you know exactly how much heat you have at the tip, you don't know how much each joint needs. Manufacturers should focus on controlling how much heat is delivered to the solder joint, but conventional technology limits their ability to do so.

Controlling tip temperature to control connection temperature is like controlling the speed of a car by the amount of pressure you put on the gas pedal.

Of course, a very skilled operator can adjust the amount of heat being delivered by varying the time on the pedal (dwell time) or quickly changing pressure (tip temperature). In addition, if all the solder joints were alike (like driving on a flat road with no wind factors), controlling only tip temperature could effectively result in a consistent joint.

To compensate for real-world demands, Metcal SmartHeat® Systems use a completely different technology called SmartHeat. Instead of just using the tip to store heat, Metcal tip cartridges

sense the load and instantly adjust power to quickly deliver the right amount of heat precisely where it is needed.

Metcal is like a space-age cruise control for your car. Not only does it vary the amount of gas (power) going to the engine (solder tip) based on the speed (connection temperature) desired, but it has an automatic, instantaneous braking system to ensure that you never, ever go too fast (no overshoot). And, because the Metcal Systems can deliver high power you won't run out of gas along the way, even on the steepest hills.

What does this mean to you? You can solder faster at lower temperatures with a Metcal than with any other iron. This can mean substantial savings in production costs.

BOARDS PER MONTH	50		100		150	
	ANNUAL HOURS SAVED	ANNUAL POUNDS SAVED*	ANNUAL HOURS SAVED	ANNUAL POUNDS SAVED*	ANNUAL HOURS SAVED	ANNUAL POUNDS SAVED*
250	83	£2,012	166	£4,024	83	£6,060
500	166	£4,024	334	£8,097	166	£12,120
1000	334	£8,097	666	£16,145	334	£24,240

*BASED ON 8-HOUR SHIFT AT £24.24/HR BURDENED LABOUR RATE

Want us to run an analysis of your operations? Simply call your local Metcal distributor or representative and ask for a "Value Analysis" demonstration.

HOW SMARTHEAT TECHNOLOGY WORKS

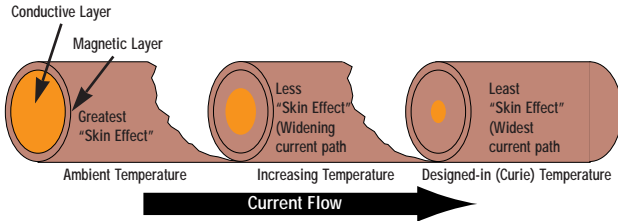
Metcal heaters consist of two basic elements – a constant current power supply and a heating element. The radical difference between it and standard heaters is that the heating element itself is capable of seeking and maintaining a predetermined temperature.

Here's how it works: The basic design of Metcal devices depends on the electrical and metallurgical characteristics of two different metals: one a material with high thermal and electrical conductivity, the other a magnetic material with relatively high resistance.

When the device (shown here as a solid cylinder) is energised by a low frequency alternating current (AC) power source, the current will naturally flow throughout the entire conductive cross-section. However, as the frequency of the alternating current increases, a useful physical phenomenon occurs – the current flow becomes increasingly confined to the skin of the device. Known as the "skin effect", this phenomenon serves the purpose

THE POWER OF SMARTHEAT

of driving the current primarily through the high resistance magnetic layer, causing rapid heating.



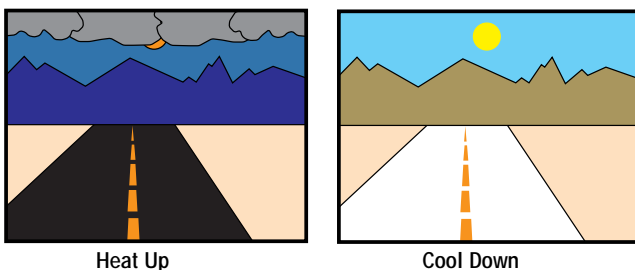
As the outer layer reaches a certain temperature (predetermined by its constituent elements), another physical phenomenon occurs – the layer loses its magnetic characteristics. This temperature, called the Curie Point of the magnetic material, causes the skin effect to decrease, thus permitting the migration of current into the highly conductive core. Since the overall resistance to current flow is considerably decreased by both the low-resistance path of the inner core and the greater cross-sectional area through which the current travels, and the power supply provides a constant current, the overall power consumption decreases proportionally to the reduction in resistance.

The selection of a material with a given Curie point results in a device that will produce and maintain a specific self-regulated temperature. The result? A system that requires no calibration and responds dynamically to loads.

SMARTHEAT TECHNOLOGY SIMPLIFIED

We all know what happens when the sun shines on a black surface like asphalt: The surface absorbs the sun's energy and heats up. Conversely, a white concrete path reflects the sun's energy and does not heat up as much. The asphalt heats more because a black surface is better at absorbing energy than a white one.

Now, imagine what would happen if asphalt could absorb energy until it reached a pre-set temperature, and then turn white to reflect the energy away.



When the temperature dropped a few degrees, it would turn black again. You would have a road that could regulate its own temperature and never overheat or become icy.

This analogy is close to the way Metcal's technology works. The "asphalt" is made from a metal alloy which has the ability to absorb energy from an electrical field and turn it into heat. When the alloy reaches a certain temperature, it stops absorbing energy – in our analogy, it turns white – and its temperature stops rising. When a solder joint draws heat from the heater, the alloy reacts immediately by becoming "black" again to take on more energy and reheat.



TO SUM IT ALL UP:

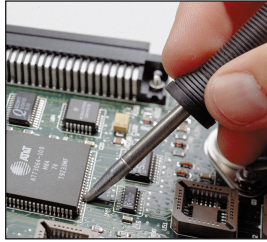
BECAUSE METCAL SYSTEMS USE SMARTHEAT® TECHNOLOGY,

- THEY ARE INCAPABLE OF OVERSHOOT.
- THERE IS NO NEED FOR CALIBRATION - EVER.
- THEY DELIVER HIGH THROUGHPUT AT LOWER TEMPERATURES.
- AND YOU GET AN EASY TO USE, VERSATILE CONDUCTION TOOL FOR ALL YOUR REWORK NEEDS.

MX REWORK SYSTEMS

METCAL CAN MAKE ANYONE A REWORK EXPERT— IN LESS TIME THAN YOU'D THINK

Even a novice can be reworking difficult boards with just a morning of basic training from one of our expert distributors or representatives. That's because Metcal's patented technology and precision-engineered design assure consistent results. Tip cartridges like the SMTC-x147 (hoof) multi-lead speed soldering cartridge make attaching QFP-208's easier than you've ever imagined. Removal is just as quick and easy.



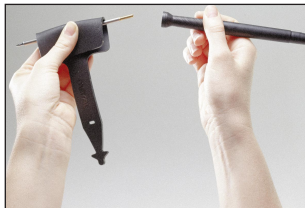
NO CALIBRATION MAKES ISO 9000 COMPLIANCE EASY

Because the interchangeable SmartHeat cartridges contain the heater and temperature self-regulating alloy, SmartHeat Systems require no calibration.

By specifying the tip cartridge, you've specified most of your process. Operators choose the correct tip cartridge, insert it into the handpiece, and flip one switch. Compare that to the myriad of dials, readouts, buttons, and calibration tools and procedures of other systems. This makes compliance with ISO 9000 simple. A "no-calibration" letter is available on request.

THE EASIEST TIP CARTRIDGE SWAP IN THE INDUSTRY

Tip cartridges slip in and out with no tools, so you can quickly go from removing a 100-pin QFP to cleaning up pads with one of Metcal's blade tip cartridges and solder wick to rapidly soldering a fine pitch component with our "hoof" tip cartridge. It's like having a complete rework station at every bench.



REDUCES YOUR MAINTENANCE COSTS

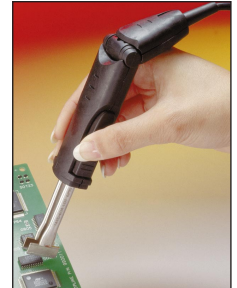
MX Systems reduce maintenance costs because they use no separate control circuits and minimal parts. When you change a tip cartridge, it's like getting a whole new system.

THE POWER TO DELIVER HIGH THROUGHPUT AT LOW TEMPERATURES

Unlike conventional systems, which rely on stored energy, Metcal Systems deliver direct power on demand. This allows you to work at lower temperatures while maintaining the fastest temperature recovery joint-to-joint in the industry.

ATTENTION TO DETAIL PROVIDES UNMATCHED COMFORT AND SIMPLICITY

The Metcal TALON's easy-squeeze design makes removing SMT components a snap. Unlike other "tweezer-style" tools, the TALON was designed with ergonomics, style, and superior performance in mind. To put it simply, when you try any other tweezer tool, and then try the TALON, you'll agree that there is simply no comparison.



Our sleek design gives you unmatched control and comfort. But we didn't just stop at the handpiece. A cleverly designed bevelled edge on tips allows you to rework several components without changing tip cartridges. And, even when you have to change a tip cartridge, there are no annoying screws or difficult tip alignment - it's simple and fast.

AWARD WINNING PISTOL GRIP SMT REWORK/DESOLDERING SYSTEM

The MX-500DS allows you to do both SMT and through-hole rework with one power supply at the bench. The MX-500DS converts shop air into a powerful Venturi vacuum. And the MX-500DS uses paper solder collection liners instead of glass tubes for the easiest maintenance in the industry.



SUPERIOR PROCESS CONTROL REDUCES BOARD DAMAGE

The predictability of SmartHeat increases quality at every bench. Metcal's direct power delivery responds to the needs of the solder connection, providing both safer rework and a repetitive thermal profile for superior process control.

OPTIMISED BENCH SPACE

Since workbenches are getting more and more crowded, the MX power supply has been designed to have a smaller footprint than almost any other system.

AUTOMATIC TIME-OUT INCREASES TIP CARTRIDGE LIFE

The MX-500P power supply senses whether the tip cartridge has been used during the past 30 minutes, and automatically shuts off to maximise the life of your tip cartridges.

MX REWORK SYSTEMS



MX-500S

Soldering/SMT Rework System with Expansion Port

INCLUDES:

- MX-500P Two Port Switchable Power Supply with Power Cord
- MX-RM3E Handpiece with cord
- MX-WS4 Workstand
- AC-YS3 Sponge
- AC-CP2 Cartridge Removal Pad



MX-500TS

TALON/Soldering/SMT Rework System

INCLUDES:

- MX-500P Two Port Switchable Power Supply with Power Cord
- MX-TALON Handpiece with cord
- MX-WS5 Workstand
- MX-RM3E Handpiece with cord
- MX-WS4 Workstand
- AC-YS3 Sponge (2 ea)
- AC-CP2 Cartridge Removal Pad (2 ea)

Tip cartridges for all systems sold separately.



MX-500DS

Soldering/SMT Rework/Desoldering System

INCLUDES:

- MX-500P Two Port Switchable Power Supply with Power Cord
- MX-DS1 Desoldering Handpiece
- MX-RM8E Desoldering Cord
- MX-DAH4 ESD Air Hose with Fitting
- MX-WS5 Workstand
- MX-RM3E Handpiece with cord
- MX-WS4 Workstand
- AC-YS3 Sponge (2 ea)
- AC-CP2 Cartridge Removal Pad (2 ea)
- AC-CB1 Cleaning Brush
- AC-CB2 Tube Cleaning Brush
- MX-DCF1 Chamber Liner and Filter Pack
- AC-TC Desoldering Tip Cleaner

UPGRADE KITS

MX-TALON-01

TALON Upgrade Kit without Switchbox (not shown)

INCLUDES:

- MX-TALON Handpiece with cord
- MX-WS5 TALON Workstand
- AC-YS3 Sponge
- AC-CP2 Cartridge Removal Pad

MX-TALON-02

TALON Upgrade Kit with Switchbox (for STSS Systems: not shown)

INCLUDES:

- MX-TALON Handpiece with cord
- MX-WS5 TALON Workstand
- AC-YS3 Sponge
- AC-CP2 Cartridge Removal Pad

STTC SOLDERING TIP CARTRIDGES FOR MX SYSTEMS

CHOOSING THE CORRECT GEOMETRY

Pick a tip geometry that will maximise contact with the connection. A flat, blunt tip will transfer more heat than a fine, pointed one. Choosing the largest tip possible will both improve performance and enhance tip life.



CHOOSING THE PROPER SERIES

Using a lower temperature helps prevent thermal damage and significantly enhances your tip life, especially with no-clean solders. Each Metcal cartridge is designed for high power delivery, so you can often solder with a Metcal cartridge at a temperature 100°F or more lower than with a conventional iron. Since Metcal tip cartridges sense thermal loads and respond to them, you need only approximate the size of the loads you will be working with. For most applications, a 600 Series will provide enough power and flexibility. Switch to a 700 Series only where absolutely necessary; for example, when working with heavy ground planes. When working with no-clean solders or thermally sensitive applications, Metcal's 500 Series cartridges are excellent choices.

MOST POPULAR STANDARD RECOMMENDED CARTRIDGES

These cartridges are Metcal's most popular. Owning these tips will help you complete almost every soldering task.

	5.15MM EXTRA LARGE CHISEL 500 Series: STTC-517 600 Series: STTC-017 700 Series: STTC-117	High power for heavy load through-hole and mechanical soldering. The STTC-117 is a good tip for soldering to heavy ground planes.
	2.4MM 30° CHISEL 500 Series: STTC-536 600 Series: STTC-036 700 Series: STTC-136	For medium to heavy load joints requiring extra length.
	3.0MM 90° CHISEL 500 Series: STTC-513 600 Series: STTC-013 700 Series: STTC-113	For medium to heavy load joints where access is not a problem.
	1.6MM 30° CHISEL 500 Series: STTC-537 600 Series: STTC-037 700 Series: STTC-137	For a wide variety of tasks. If you are looking for a first tip for your Metcal System, the STTC-037 is recommended.
	1.2MM 30° CHISEL 500 Series: STTC-538 600 Series: STTC-038 700 Series: STTC-138	A finer version of the STTC-x37. Good for medium to light through-hole and general surface mount touch-up.
	0.8MM 30° CHISEL 500 Series: STTC-525 600 Series: STTC-025 700 Series: STTC-125	Good for a variety of light solder tasks. Looking for a surface mount touch-up tip? The STTC-025 should be your first choice.
	0.4MM CONICAL SHARP 500 Series: STTC-522 600 Series: STTC-022 700 Series: STTC-122	A versatile fine point for surface mount or fine wire applications. <i>Not for general through-hole.</i>
	0.4MM SHARP (BENT 30°) 500 Series: STTC-526 600 Series: STTC-026 700 Series: STTC-126	A bent version of the STTC-x22. Good for SMT touch-up, replacement, and PLCC point-to-point soldering. <i>Not for general through-hole.</i>
	0.2MM 60° BEVEL 500 Series: STTC-545 600 Series: STTC-045 700 Series: STTC-145	An extended length fine point for surface mount or fine wire. <i>Not for general through-hole.</i>

STTC Soldering cartridges are for use with soldering/rework handpieces for STSS/MX Systems only. They cannot be used with SP Systems, TALON handpieces, or desolder handpieces.

SMTC SMT REWORK TIP CARTRIDGES FOR MX SYSTEMS

CHOOSING THE CORRECT TIP CARTRIDGE FOR SURFACE MOUNT REMOVAL

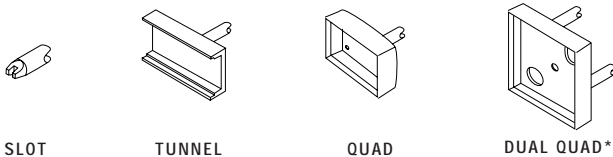


1. CHOOSE THE CORRECT GEOMETRY

First, measure the dimensions of your component. Then, using the charts which follow, look up your component description, and match it to the dimensions listed (sometimes components with the same description can have different dimensions). If this doesn't work, try looking up the dimensions of other types of components; one of them may work.

The tip you choose must match your component. A "near fit" is not good enough for most applications. The leads must be contacted on all sides, ensuring even performance.

SMT REMOVAL TIP TYPES



SLOT

TUNNEL

QUAD

DUAL QUAD*

FREE TIP PICKER PROGRAM

Metcal makes available, free of charge, a "Tip Picker" program, to be used with the Microsoft® Excel® spreadsheet program. This is the easiest way yet to get the right tip. Contact Metcal or your local Metcal representative for a copy. You can also download a copy from www.metcal.com.

TIP TEMPLATE GUIDE

Many customers have said that trying to measure their components and match them up to a chart can be difficult. That's why Metcal developed the SMTC Tip Template Guide. The SMTC Tip Template is a series of ESD-safe, clear plastic templates in an easy-to-use book. Look up what type of component you have, and turn to one of our templates. Lay the template over the component, and, if it fits and has the correct lead count, you've found your tip. There's also an outline of each tip at the edge of the template, so you can turn the template and "try out" the tip on the component. Contact your local Metcal distributor to order.

2. CHOOSE THE PROPER SERIES

Each Metcal cartridge is specially designed to deliver high power in response to loads. For this reason, you can often rework with a Metcal cartridge at a temperature 100°F or more lower than with a conventional iron. In the tip listing that follows, the recommended Series is included in its own column. If you think you need a different series than recommended, call your Metcal Distributor or Representative.

SOLDERING QFP'S, PLCC'S, OR OTHER MULTI-LEADED PACKAGES?

Let one of Metcal's Multi-lead Soldering tip cartridges or one of Metcal's blade tips do the work for you! It's faster than laboriously soldering point to point. And safer than drag soldering with a bent hook tip, which can abrade leads and shorten tip life.

In addition, you can use Metcal's blade tips to clean up pads or solder components using either wire solder or solder paste. Call Metcal or your local Metcal Representative or Distributor for a copy of our Technical Note or for a demonstration.

NEED A CUSTOM TIP CARTRIDGE?

If you have a component that needs a tip cartridge not listed in this brochure, call your local Metcal Representative or Distributor. We may have introduced a new tip cartridge between printings. In addition, Metcal has a custom tip program. Call for details.

*Dual cartridges require 2 power supplies and 2 handpieces. A dual handle support (DHS) is also recommended

SMTC rework cartridges are for use with soldering/rework handpieces for STSS/MX Systems only. They cannot be used with SP Systems, TALON handpieces, or desolder handpieces.

SMTC SPECIALTY TIP CARTRIDGES FOR MX SYSTEMS

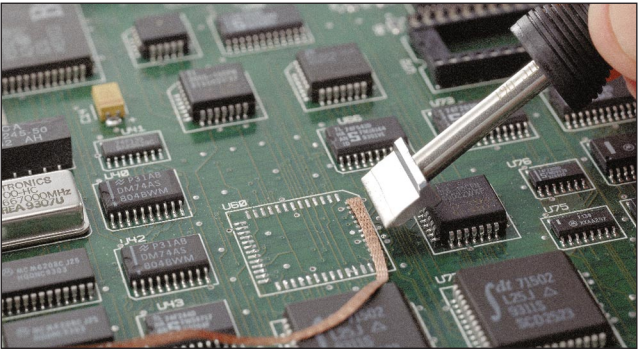
PAD CLEAN-UP

Metcal's blade tip cartridges may be used with solder wick to clean up the pads for both two and four-sided components regardless of the lead configuration or pitch.

Proper wicking always uses the tip working with the grain of the pad. Never use a blade to wick by dragging it down the row of pads. The heat combined with the abrasive action may cause the epoxy holding the land to the board to lift the pad.

Choose the size of blade tip that best fits the row of pads. For optimum heat delivery, use the recommended part number below to order.

STYLE	RECOMMENDED PART NO
10.4mm Long	SMTC-060
15.8mm Long	SMTC-061
22.1mm Long	SMTC-062
39.4mm Long Dual*	SMTC-1110



OTHER SPECIAL CARTRIDGES

Hot Plate (10.8mm square)	SMTC-x136
28-Pin SMT Connector	SMTC-x98

x = 5 for 500 Series, x = 0 for 600 Series, x = 1 for 700 Series.
*Dual cartridges require 2 power supplies and 2 handpieces. A dual handle support (DHS) is also recommended

MULTI-LEAD SPEED SOLDERING

Metcal makes special tip cartridges for replacing most component configurations, gull-winged and J-lead, regardless of the number of leads or the lead pitch. We call these multi-lead speed soldering tip cartridges.

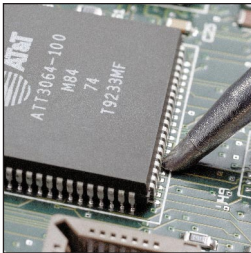
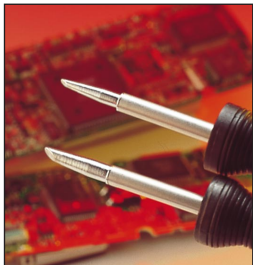
For components on boards where access is not a problem, we recommend our SMTC-x147 "hoof" tip cartridge. (This tip cartridge is shaped like a horse's hoof) This tip is designed specifically for "drag soldering" techniques. The face has been designed to hold just the right amount of solder, and the SMTC-x147 has extra plating where necessary to prevent the failures so commonly seen when using a bent hook to drag solder.

Once you have practiced a bit, you will find it is the easiest and fastest way to solder surface mount components.

The "knife" tip (SMTC-x161) is designed for multi-lead soldering of PLCC's in tight spaces. The "mini-hoof" (SMTC-x167) is designed for soldering of either PLCC's or QFP's in tight spaces.

See your local Metcal distributor or representative for a demonstration of these easy techniques.

STYLE	PART NO
Hoof	SMTC-x147
Mini-Hoof	SMTC-x167
Knife	SMTC-x161



SMTC rework cartridges are for use with soldering/rework handpieces for STSS/MX Systems only. They cannot be used with SP Systems, TALON handpieces, or desolder handpieces.

SMTC SMT REWORK TIP CARTRIDGES FOR MX SYSTEMS

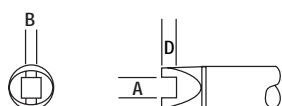
SLOT CARTRIDGES

SMD COMPONENT	DIMENSIONS(MM)			PART NO	RECOMMENDED SERIES	RECOMMENDED PART NO
	A: WIDTH	B: LENGTH	D: DEPTH			
Chip 0402, 0603	1.8	1.0	0.9	SMTC-x96*	500	SMTC-596
Chip 0402, 0603,0805(angle)	2.0	1.3	1.5	SMTC-x88*	500	SMTC-588
Chip 0805	2.3	1.3	1.8	SMTC-x01*	500	SMTC-501
Chip 1206, 1210	3.6	1.5	1.8	SMTC-x02*	500	SMTC-502
Chip 1808, 1812	4.8	2.0	1.9	SMTC-x03*	500	SMTC-503
Chip, Case A (EIA SOPM-3224)	3.4	2.0	3.0	SMTC-x35*	500	SMTC-535
Chip, Case B (EIA SOPM-3528)	3.8	2.4	2.5	SMTC-x32*	500	SMTC-532
Inductor, Case B (EIA SOPM-4532)	4.8	2.8	4.0	SMTC-x36*	500	SMTC-536
Chip, Case C (EIA SOPM-6032)	6.4	2.4	3.3	SMTC-x33	600	SMTC-033
Chip, Case D (EIA SOPM-7243)	7.6	2.5	3.6	SMTC-x34	600	SMTC-034
Chip, Case E	8.4	4.6	5.7	SMTC-x41	600	SMTC-041
SOT-23	1.7	2.5	1.3	SMTC-x05	500	SMTC-505
SOT-89	2.8	6.4	2.0	SMTC-x08	500	SMTC-508

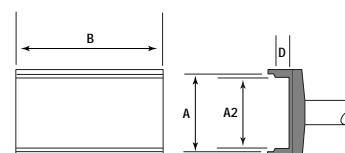
TUNNEL CARTRIDGES

SMD COMPONENT	DIMENSIONS(MM)				PART NO	RECOMMENDED SERIES	RECOMMENDED PART NO
	A2: WIDTH	A: WIDTH	B: LENGTH	D: DEPTH			
Chip MNR32	2.4	3.3	2.8	1.6	SMTC-x149*	600	SMTC-0149
DPAK	8.5	8.5	6.3	5.0	SMTC-x47	600	SMTC-047
SO-8	8.1	9.6	19.0	6.0	SMTC-x107	600	SMTC-0107
SO-16	8.4	8.4	12.0	5.8	SMTC-x46	600	SMTC-046
SO-8	8.5	8.5	16.9	6.4	SMTC-x68	600	SMTC-068
SOIC-8	5.0	5.0	4.3	2.3	SMTC-x04	600	SMTC-004
SOIC-14,-16	5.0	5.0	10.0	2.3	SMTC-x06	600	SMTC-006
SOIC-14	5.2	5.2	8.9	2.5	SMTC-x142	600	SMTC-0142
SOIC-24 (mini flat pack)	7.1	7.1	15.8	3.2	SMTC-x77	600	SMTC-077
SOIC-16 (large)	8.1	8.1	11.9	6.9	SMTC-x124	600	SMTC-0124
SOIC-20	9.5	9.5	13.2	3.2	SMTC-x10	600	SMTC-010
SOIC-24	9.5	9.5	15.7	3.2	SMTC-x09	600	SMTC-009
SOIC-28, SOL-34	9.5	9.5	18.3	3.2	SMTC-x07	600	SMTC-007
SOIC-32	13.2	13.2	20.4	4.3	SMTC-x42	600	SMTC-042
SOJ-28, SOM-36	8.0	8.6	18.8	1.9	SMTC-x26	600	SMTC-026
SOJ-32, 34	8.0	8.6	21.3	3.2	SMTC-x140	600	SMTC-0140
SOJ-40, SOM-32	10.4	11.4	25.9	1.9	SMTC-x40	600	SMTC-040
SOJ-42	10.4	11.4	27.2	3.2	SMTC-x148	600	SMTC-0148
SOMC-14,-16, DB-20	6.9	6.9	11.2	2.3	SMTC-x20	600	SMTC-020
SOP-20	6.9	6.9	7.2	2.5	SMTC-x138	600	SMTC-0138
SOP-28	10.7	10.7	18.3	3.2	SMTC-x39	700	SMTC-139
SOP-40	11.7	13.0	25.4	3.2	SMTC-x134	700	SMTC-1134
SOP-44	13.0	14.4	27.2	2.7	SMTC-x83	700	SMTC-183
TSOP-28	12.0	12.8	8.1	1.6	SMTC-x95	600	SMTC-095
TSOP-40	18.5	19.3	10.0	3.0	SMTC-x154	600	SMTC-0154
TSOP-56	18.5	19.3	14.0	3.0	SMTC-x162	600	SMTC-0162

SLOT



TUNNEL



SMTC rework cartridges are for use with soldering/rework handpieces for STSS/MX Systems only. They cannot be used with SP Systems, TALON handpieces, or desolder handpieces. x = 0 for 600 Series, x = 1 for 700 Series. *Available in 500 Series (x = 5).

SMTC SMT REWORK TIP CARTRIDGES FOR MX SYSTEMS

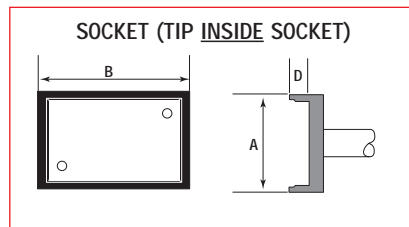
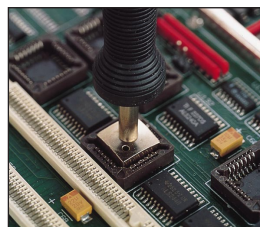
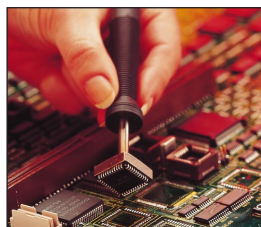
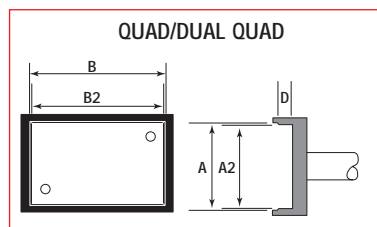
QUAD/DUAL QUAD CARTRIDGES

SMD COMPONENT	DIMENSIONS(MM)					PART NO	RECOMMENDED PART NO
	A2: WIDTH	A: WIDTH	B2: LENGTH	B: LENGTH	D: DEPTH		
PLCC-18	7.7	8.3	12.7	13.5	2.5	SMTC-x11	SMTC-111
PLCC-20	9.1	10.0	9.1	10.0	2.5	SMTC-x12	SMTC-112
PLCC-28	9.4	10.4	14.5	15.4	2.5	SMTC-x103	SMTC-1103
PLCC-32	11.4	12.7	14.0	15.2	2.5	SMTC-x16	SMTC-116
PLCC-28	11.6	12.7	11.6	12.7	2.5	SMTC-x13	SMTC-113
PLCC-44	16.8	17.8	16.8	17.8	2.5	SMTC-x14	SMTC-114
PLCC-52	19.3	20.3	19.3	20.3	2.5	SMTC-117**	SMTC-117**
PLCC-68	24.4	25.3	24.4	25.3	3.6	SMTC-118**	SMTC-118**
PLCC-68 Dual*	24.4	25.3	24.4	25.3	3.6	SMTC-x28	SMTC-128
PLCC-84	29.5	30.4	29.5	30.4	3.6	SMTC-119**	SMTC-119**
PLCC-84 Dual*	29.6	30.4	29.6	30.4	3.6	SMTC-x29	SMTC-129
SQFP-48 (EIAJ)	8.3	8.3	8.3	8.3	2.5	SMTC-x121	SMTC-1121
SQFP-64 (EIAJ)	11.2	11.2	11.2	11.2	2.8	SMTC-x120	SMTC-1120
TQFP-44	11.2	12.2	12.2	13.2	2.8	SMTC-x159	SMTC-1159
TQFP-80	12.3	13.3	12.3	13.3	2.7	SMTC-x132	SMTC-1132
QFP-48	14.0	14.0	14.0	14.0	3.3	SMTC-x115	SMTC-1115
VQFP-100 (EIAJ)	14.5	15.5	14.5	15.5	2.0	SMTC-x118	SMTC-1118
QFP-128 (3.2 mm fp)	15.8	15.8	21.8	21.8	3.3	SMTC-x133	SMTC-1133
QFP-44	16.1	16.1	16.1	16.1	3.3	SMTC-x21	SMTC-121
QFP-100	16.5	16.5	22.5	22.5	3.3	SMTC-x43	SMTC-143
QFP-64,-80	17.1	17.1	23.1	23.1	3.3	SMTC-x15	SMTC-115
QFP-100	20.5	20.5	20.5	20.5	4.9	SMTC-x45	SMTC-145
QFP-144	20.5	21.3	20.5	21.3	1.9	SMTC-x122	SMTC-1122
QFP-132	25.0	26.0	25.0	26.0	3.2	SMTC-x86	SMTC-186
QFP-100	26.4	26.4	26.4	26.4	3.3	SMTC-x44	SMTC-144
QFP-208 Dual*	28.6	29.7	28.6	29.7	2.9	SMTC-x81	SMTC-181
QFP-120,-160 Dual*	29.6	30.5	29.6	30.5	3.0	SMTC-x48	SMTC-148
PQFP-240 Dual*	32.8	33.8	32.8	33.8	2.8	SMTC-x125	SMTC-1125
PQFP-304 Dual*	40.6	42.0	40.6	42.0	5.0	SMTC-x158	SMTC-1158
PLCC-20 Socket	N/A	9.1	N/A	9.1	2.9	SMTC-x144	SMTC-1144
PLCC-28 Socket	N/A	11.3	N/A	11.3	3.8	SMTC-x12	SMTC-112
PLCC-32 Socket	N/A	11.6	N/A	14.1	3.0	SMTC-x109	SMTC-1109
PLCC-44 Socket	N/A	16.8	N/A	16.8	2.5	SMTC-x118	SMTC-1118
PLCC-52 Socket	N/A	19.0	N/A	19.0	3.8	SMTC-x14	SMTC-114
PLCC-68 Socket	N/A	24.3	N/A	24.3	3.0	SMTC-x108	SMTC-1108
PLCC-84 Socket	N/A	29.5	N/A	29.5	2.9	SMTC-x145	SMTC-1145

x = 0 for 600 Series, x = 1 for 700 Series. A 700 Series cartridge is recommended for all quad SMT removal tips.

*Dual cartridges require 2 power supplies and 2 handpieces. A dual handle support (DHS) is also recommended.

**Available in 700 Series only.



TATC TIP CARTRIDGES FOR MX TALON SYSTEMS

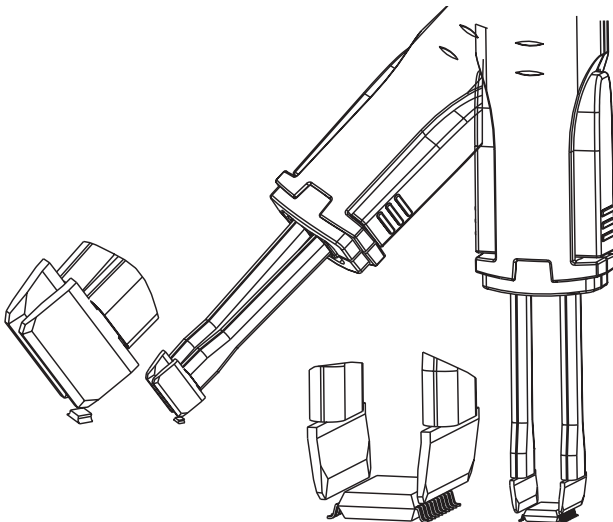
THE ULTIMATE IN VERSATILITY



CHOOSE THE CORRECT GEOMETRY

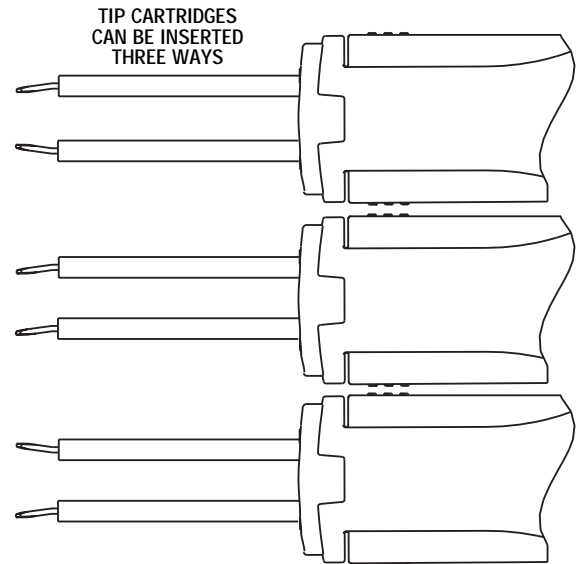
Metcal TATC tip cartridges are available in the following tip geometries and in two standard temperature ranges (500 Series and 600 Series).

Metcal's unique tip design means that, by simply rotating the TALON, your possibilities are almost endless. You can remove 28-pin SOIC's, tantalums, and 0603 chip caps without changing tips. This is why some tips have bevelled edges. You must be careful when using a tip with bevels that all leads are contacted by the tip.



CHOOSE THE PROPER SERIES

Each Metcal cartridge is designed to deliver high power in response to loads. For this reason, you can often work with a Metcal cartridge at a temperature lower than with a conventional iron. 500 Series cartridges will work well for most applications.



Measurement "A" (Span) refers to the minimum and maximum distance between two cartridges when used together in the TALON in the three possible configurations.

PART NUMBER	DESCRIPTION	SPAN (A)
TATC-x01	Fine Point Tips	0.8-9.4mm
TATC-x02	Blades, 6.4mm	0.0-9.1mm
TATC-x03	Blades, 15.7mm	1.5-10.7mm
TATC-x04	Blades, 20.5mm	2.5-12.0mm
TATC-x05	TSOP 32	0.0-19.8mm
TATC-x06	Blades, 27.9mm	0.0-16.8mm

x=5 for 500 Series, 6 for 600 Series

TATC cartridges are for use with the TALON only.

STDC TIP CARTRIDGES FOR MX DESOLDERING SYSTEMS



CHOOSING THE CORRECT DESOLDER CARTRIDGE

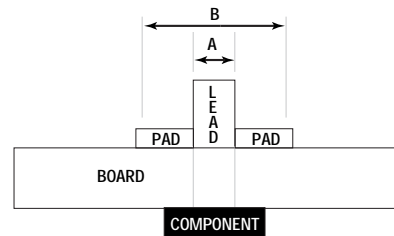
Proper tip cartridge selection is important for getting the best results. Since changing tip cartridges is so quick and easy, there is no need to compromise.

CHOOSING THE CORRECT TEMPERATURE (SERIES)

The STDC cartridges are highly durable and designed for high heat transfer, making desoldering on multi-layer boards much easier. Desolder cartridges are available in three temperature ranges (600, 700, and 800 Series). A typical board usually requires a 700 Series tip cartridge. Try a 600 Series tip cartridge first for thermally sensitive components or small single-sided boards. 800 Series tip cartridges can help you do the most stubborn jobs.

CHOOSING THE CORRECT GEOMETRY

Select a tip cartridge with an inside diameter (A) larger than the lead diameter, and an outside diameter (B) that is approximately the same size as the pad.

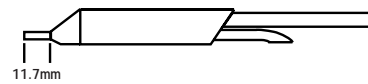


Long reach cartridges are available in three popular geometries for reaching hard-to-access leads.

STANDARD STDC TIP CARTRIDGE



LONG REACH STDC TIP CARTRIDGE



CORRECT

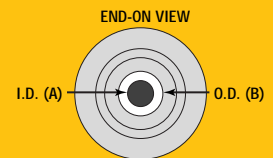


TOO SMALL



TOO LARGE

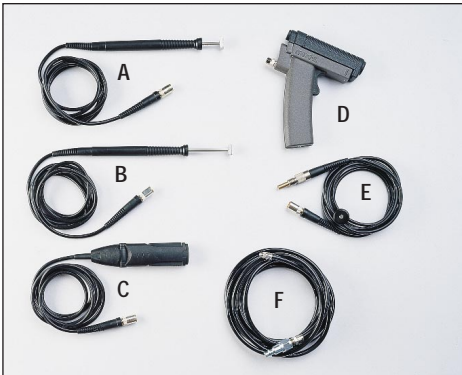
INSIDE DIAMETER (A)	OUTSIDE DIAMETER (B)	PART NUMBER			LONG REACH *	LONG REACH 800 SERIES
		600 SERIES	700 SERIES	800 SERIES		
0.6mm	1.4mm	STDC-002	STDC-102	STDC-802	N/A	N/A
0.7mm	1.7mm	STDC-003	STDC-103	STDC-803	STDC-703L	STDC-803L
1.0mm	1.8mm	STDC-004	STDC-104	STDC-804	STDC-704L	STDC-804L
1.3mm	2.0mm	STDC-005	STDC-105	STDC-805	STDC-705L	STDC-805L
1.5mm	2.3mm	STDC-006	STDC-106	STDC-806	N/A	N/A
2.4mm	3.2mm	STDC-007	STDC-107	STDC-807	N/A	N/A



*When using long reach cartridges, 600 series heat delivery is insufficient for fast, safe device removal. Therefore, long reach desolder cartridges are only available in 700 and 800 series.

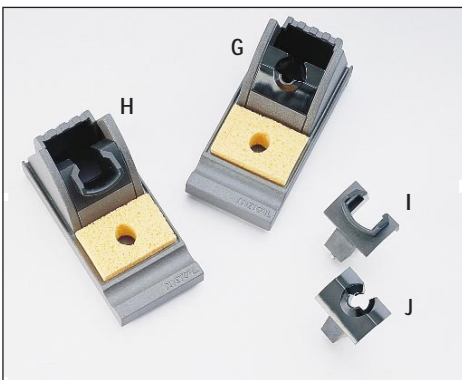
STDC cartridges are for the DSG1 pistol grip desolder handpiece only. They cannot be used with the SP440.

MX ACCESSORIES AND SPARE PARTS



HANDPIECES AND CORDS

- | | | |
|---|----------|---|
| A | MX-RM3E | Soldering/rework handpiece and cord* |
| B | MX-RM6E | Long reach soldering/rework handpiece and cord* |
| C | MX-TALON | TALON handpiece and cord |
| D | MX-DS1 | Desolder handpiece |
| E | MX-RM8E | Desolder cord |
| | MX-DAH2 | Airhose, ESD, no fitting (not shown) |
| F | MX-DAH4 | Airhose, ESD, standard with fitting |



WORKSTAND ITEMS

- | | | |
|---|---------|---|
| G | MX-WS4 | Soldering/rework workstand (includes YS3 sponge) |
| H | MX-WS5 | Desoldering/TALON workstand (includes YS3 sponge) |
| I | MX-WSC5 | Phenolic insert for MX-WS5 workstand |
| J | MX-WSC4 | Phenolic insert for MX-WS4 workstand |
| | AC-YS1 | Sponge (43.2 x 68.6 x 25.4mm) for WS1 workstand (not shown) |
| | AC-YS3 | Sponge for WS3, WS4, and WS5 workstands (not shown) |

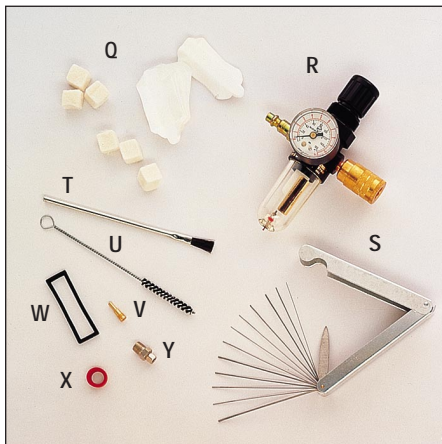


MISCELLANEOUS ACCESSORIES

- | | | |
|---|-------------|--|
| K | AC-TSTAND | Tip stand* |
| L | AC-CP2 | Cartridge removal pad |
| M | AC-BRUSH | Cartridge cleaning brush |
| N | MX-DHS | Dual handle support for dual heater cartridges |
| O | MX-TEMPLATE | SMTC tip template guide |
| P | AC-TCASE | Tip case* |

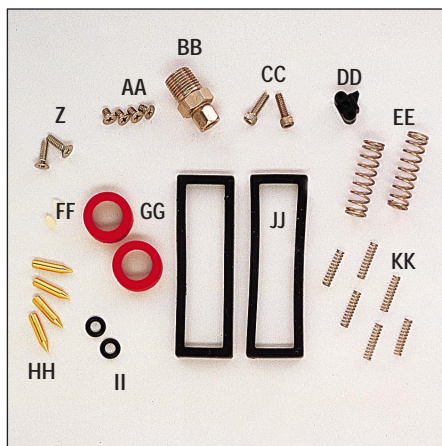
*Tips not included **Required to make STSS Systems dual port. The STSS System (no longer available) is an older version of the MX System. Handle/cord assemblies are cross-compatible, but the STSS System does not include an integrated switchbox.

MX ACCESSORIES AND SPARE PARTS



DESOLDERING ACCESSORIES

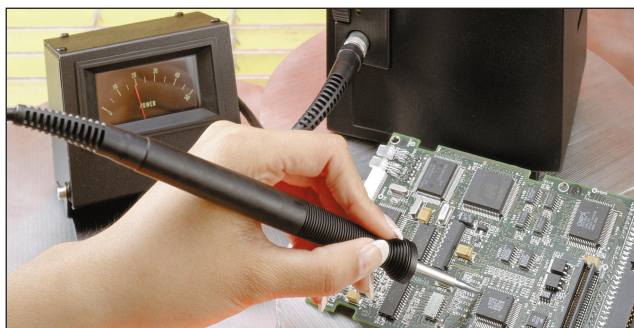
Q	MX-DCF1	15 chamber liners and 6 filters kit
	MX-DCF1L	Chamber liners (40) (not shown)
	MX-DCF1F	Fume filters (20) (not shown)
R	MX-DAR1	Air regulator and filter with fitting
S	AC-TC	Desoldering tip cleaner
T	AC-CB1	Chamber cleaning brush
U	AC-CB2	Tube cleaning brush
V	MX-DVC1	Venturi cartridge
W	MX-DSL1	Seal, chamber
X	MX-DSL2	Seal, cartridge
Y	MX-DSB	Swivel bushing



MAINTENANCE KIT (MX-DMK1) FOR MX DESOLDER SYSTEM

Z		Large Phillips screws (2) (Not sold separately)
AA		Small Phillips screws (4) (Not sold separately)
BB	MX-DSB	Swivel bushing
CC		Hex screws (2) (Not sold separately)
DD		Latch adjustment (Not sold separately)
EE		Large springs (2) (Not sold separately)
FF		Nylon screws (2) (Not sold separately)
GG	MX-DSL2	Seal, cartridge (2)
JJ	MX-DSL1	Seal, chamber (2)
KK		Small springs (6) (Not sold separately)
HH		Hinge pins (4) (Not sold separately)
II		O-Rings (2) (Not sold separately)

MX-NPM NET POWER METER



Because of Metcal's unique Direct Power SmartHeat Technology, a Metcal® Net Power Meter can help in a variety of applications.

ADVANCED TIP SELECTION TECHNIQUES

By using the Net Power Meter to measure delivered power, you can determine which tip cartridges to use and how to position them for maximum effectiveness, even for uncommon geometries or loads. Whichever tip cartridge draws maximum power for a given temperature is the proper choice.

TRAINING AID

By monitoring the power applied to a task, not the temperature or pressure, you can check to see if you are using your Metcal System correctly.

REFLOW INDICATOR

The Net Power Meter can be used as a reflow indicator when removing SMT components.

QUANTITATIVE VERIFICATION

The Net Power Meter provides immediate quantitative lab or bench-top verification of the Metcal System's performance, from time on the joint to correct tip selection

TROUBLESHOOTING

The Net Power Meter can also be used to troubleshoot power supplies, handle cords, and tip cartridges.

SP200 SOLDERING SYSTEM

THE SP200: NOW YOU DON'T HAVE TO SETTLE FOR SECOND BEST IN SOLDERING SYSTEMS

With increased competition, companies of all sizes are being driven to cut costs — without cutting corners. Now you don't have to settle for second best — the SP200 delivers 100% Metcal Direct Power performance for soldering applications. Just as in all Metcal SmartHeat systems, there is no calibration required.

The SP200 is an ideal choice for both large and small companies. You can put an SP200 on through-hole soldering and surface mount touch-up benches, and a Metcal MX500 Surface Mount Rework System on the benches of your SMT rework operators.



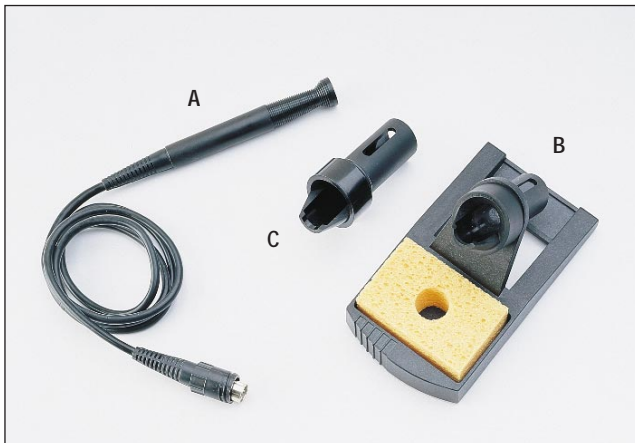
SP200 SYSTEM
Soldering system

INCLUDES:

SP-PW1	Power Supply
SP-HC1	Handpiece with cord
SP-WSK1	Workstand with Sponge
AC-CP2	Cartridge Removal Pad

Tip cartridges sold separately.

SP200 ACCESSORIES



SP200 SOLDERING ACCESSORIES

A	SP-HC1	Solder handle/cord for SP200
B	SP-WSK1	Solder workstand with YS3 Sponge
C	SP-WSC	Replacement cradle for SP-WSK1
	AC-YS3	Sponge for WSK1/WSK2 (not shown)



MISCELLANEOUS ACCESSORIES

D	AC-TSTAND	Tip stand
E	AC-TCASE	Tip case*
F	AC-CP2	Cartridge removal pad
G	AC-BRUSH	Cartridge cleaning brush

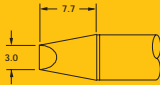
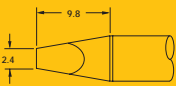
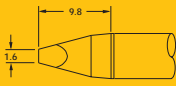
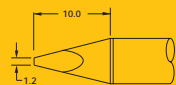
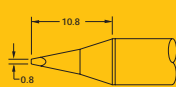
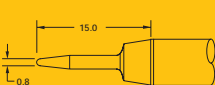





**Tips not included*

SSC SOLDERING CARTRIDGES FOR THE SP200



For maximum performance, pick a tip geometry which will maximise contact with the connection. A flat, blunt tip will transfer more heat than a fine, pointed one. Choosing the largest tip possible will improve performance (enabling you to get more heat at lower temperatures), and enhance tip life.

Each Metcal tip cartridge is designed for high power delivery, so you can often solder 100°F or more lower than with a conventional iron. For most applications, a 600 Series tip cartridge will provide enough power and flexibility to do the job. Switch to a 700 Series only where absolutely necessary; for example, when working with heavy ground planes. When working with no-cleans or thermally sensitive applications, Metcal's 500 Series tip cartridges are an excellent choice.

	3.0MM 90° CHISEL 500 Series: SSC-513A 600 Series: SSC-613A 700 Series: SSC-713A	High power for medium to heavy loads where access is not a problem.
	2.4MM 30° CHISEL 500 Series: SSC-536A 600 Series: SSC-636A 700 Series: SSC-736A	General purpose for medium to heavy loads requiring extra length.
	1.6MM 30° CHISEL 500 Series: SSC-537A 600 Series: SSC-637A 700 Series: SSC-737A	If you are looking for a first tip cartridge for your Metcal system, the SSC-637A is recommended.
	1.2MM 30° CHISEL 500 Series: SSC-538A 600 Series: SSC-638A 700 Series: SSC-738A	A finer SSC-x37A. Good for medium to light through-hole and general surface mount touch up.
	0.8MM 30° CHISEL 500 Series: SSC-525A 600 Series: SSC-625A 700 Series: SSC-725A	Good for a variety of light solder tasks. The SSC-625A should be your first choice for SMT touch-up.
	0.8MM CONICAL SHARP 500 Series: SSC-501A 600 Series: SSC-601A 700 Series: SSC-701A	For light duty applications requiring extra length.
	2.4MM LONG CHISEL 500 Series: SSC-546A 600 Series: SSC-646A 700 Series: SSC-746A	Long reach chisel. A multi-purpose tip for heavy through-hole loads in hard to access areas.
	0.4MM CONICAL SHARP 500 Series: SSC-522A 600 Series: SSC-622A 700 Series: SSC-722A	Versatile fine point tip cartridge for SMT touch-up or fine wire applications. <i>Not for general throughhole.</i>
	0.4MM SHARP (BENT 30°) 500 Series: SSC-526A 600 Series: SSC-626A 700 Series: SSC-726A	A bent SSC-x22A. Good for SMT touch-up. <i>Not for general throughhole.</i>
	0.4MM CONICAL SHARP 500 Series: SSC-545A 600 Series: SSC-645A 700 Series: SSC-745A	An extended length fine point tip cartridge for SMT touch-up or fine wire. <i>Not for general throughhole.</i>
	MULTI-LEAD SPEED SOLDER 500 Series: SSC-539A 600 Series: SSC-639A 700 Series: SSC-739A	Designed for drag soldering of fine pitch parts, both gull-wing and J-lead.

SP440 SELF-CONTAINED DESOLDERING SYSTEM

SP440 SELF-CONTAINED DESOLDERING SYSTEM

The Metcal® SP440 Self-Contained Desoldering System is designed for production level through-hole rework applications. With 50 Watts of power and tips specially designed to maximise heat transfer, the SP440 is ideal for heavy load desoldering of components on heavy ground plane and multilayer PCBs. The SP440 delivers superior Metcal performance at a price competitive with lesser tools.

Using Metcal's patented SmartHeat technology, the SP440 delivers higher watt density power at lower temperatures than conventional desoldering tools, with no overshoot. This minimises the risk of thermal damage during rework.

The whisper quiet, self-contained vacuum pump delivers a powerful vacuum capable of clearing through-holes quickly and completely. As the vacuum system is built into the unit, the SP440 is portable and ideal for areas lacking shop air.

The lightweight, ergonomic pencil grip desolder tool is designed to maximise operator control and comfort while reducing fatigue during rework. The cable and vacuum tubing are burn proof, and the solder collection chamber has been designed for easy cleaning - no glass tubes!



The SP440 Self-Contained Desoldering System includes a 50 Watt power supply with self-contained vacuum, desolder tool and workstand. The SP440 has an automatic Time-Out feature to extend tip life. A variety of desolder tips are sold separately.

SDC DESOLDERING CARTRIDGES

CHOOSING THE CORRECT DESOLDER CARTRIDGE

Proper tip cartridge selection is important for getting the best results. Choosing the right tip cartridge will maximise your performance at the lowest possible temperature. Since changing tip cartridges is so quick and easy, there is no need to compromise.

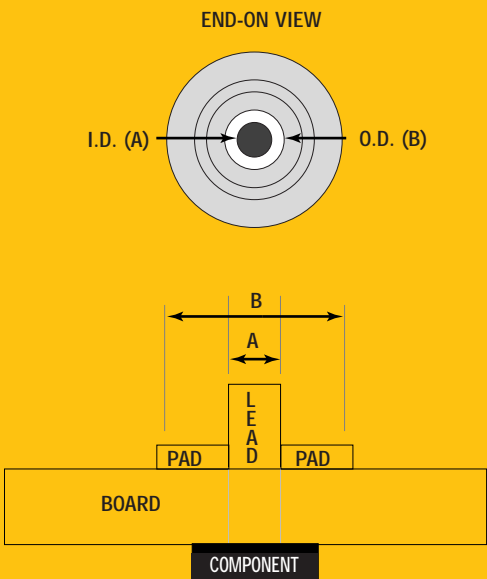
CHOOSING THE CORRECT GEOMETRY

Select a tip with an inside diameter larger than the lead diameter. Select a tip with an outside diameter that is approximately the same size as the pad.



CHOOSING THE CORRECT TEMPERATURE (SERIES)

The SP440 features high durability SDC desolder cartridges, designed for high heat transfer, making desoldering on multi-layer boards much easier. Desolder cartridges are available in two temperature ranges (600 and 700 Series). A typical board usually requires a 700 Series tip. Try a 600 Series tip first for thermally sensitive components or small single-sided boards.



ACCESSORIES

- DP-VP2 Vacuum pump for SP440-21
- DP-DSG2 Desolder Tool assembly, pencil grip
- DP-CA2 Coil assembly
- DP-CC Solder Collection chamber
- DP-FIL Filter Pack
- DP-SL3 Front seal for DP-DSG2
- DP-VB1 Valve body assembly
- DP-VL1 Vacuum line, ESD
- DP-WSC2 Desolder cradle for DP-WSK2
- DP-WSK2 Desolder workstand and with YS3
- AC-CP2 Cartridge removal pad
- AC-YS3 Sponge for DP-WSK2

Inside Diameter (A)	Outside Diameter (B)	PART NUMBER	
		600 Series	700 Series
0.6mm	1.4mm	SDC-602	SDC-702
0.8mm	1.5mm	SDC-603	SDC-703
1.0mm	1.8mm	SDC-604	SDC-704
1.3mm	2.0mm	SDC-605	SDC-705
1.5mm	2.3mm	SDC-606	SDC-706
2.4mm	3.2mm	SDC-607	SDC-707

PRODUCT SPECIFICATIONS AND WARRANTIES

POWER SUPPLY

TIP-TO-GROUND POTENTIAL	< 2 mV, true RMS, 50-500 Hz
TIP-TO-GROUND RESISTANCE	< 2 ohms, DC, unit on
IDLE TEMPERATURE STABILITY	± 1.1°C (±2°F), still air
AMBIENT OPERATING TEMP	10 - 40°C (50 - 104°F)
MAX ENCLOSURE TEMP	65°C (150°F)
INPUT LINE VOLTAGE	
SP440-11	108-132 VAC
SP440-12	85-110 VAC
SP440-21	216-264 VAC
INPUT LINE FREQUENCY	45 - 70 Hz
NOMINAL OUTPUT	50 W @ 22°C (72°F) ambient
OUTPUT FREQUENCY	470 KHz
TIME OUT FEATURE	After 25-30 mins idle time
POWER CORD (3-WIRE)	183 cm - 18/3 SJT

MX POWER SUPPLY

TIP-TO-GROUND POTENTIAL	< 2 mV, true RMS, 50-500 Hz
TIP-TO-GROUND RESISTANCE	< 2 ohms, DC, unit on
IDLE TEMPERATURE STABILITY	± 2°F (± 1.1°C), still air
AMBIENT OPERATING TEMP	50 - 104°F (10 - 40 °C)
MAX ENCLOSURE TEMP	150°F (65 °F)
THERMAL SWITCH	Setpoint at 150 ± 3°F (66± 1.2°C) Auto-reset once cooled to 110°F (43°C)
INPUT LINE VOLTAGE	
MX-500P-11	190-130 VAC
MX-500P-21	190-260 VAC
INPUT LINE FREQUENCY	
MX-500P-11	45-70 Hz
MX-500P-21	50-60 Hz
OUTPUT POWER	40 Watts maximum @ 72°F (22°C) ambient
OUTPUT FREQUENCY	13.56 MHz
AUTO-OFF FEATURE	10 millisecond lag time
TIME OUT FEATURE	After 25-30 minutes idle time
U.S. POWER CORD (3-WIRE)	6 ft (183 cm) - 18/3 SJT
LENGTH X WIDTH X HEIGHT	5.3" x 9.5" x 4.7" (13.5 x 24.1 x 11.9 cm)
WEIGHT (TOTAL UNIT)	7.5 lbs (3.4 kg)
STANDARDS COMPLIANCE	MIL-STD-2000, -1686, -45743E, WS-6536D and E
AGENCY APPROVALS	ETL, CE Approved
ESD MATERIALS	10 ⁵ -10 ¹¹ ohm/square per ASTM D257 (10 ⁵ -10 ⁹ ohm/square where possible)

SP200 POWER SUPPLY

TIP-TO-GROUND POTENTIAL	< 2 mV, true RMS, 50-500 Hz
TIP-TO-GROUND RESISTANCE	< 2 ohms, DC, unit on
IDLE TEMPERATURE STABILITY	± 2 °F (± 1.1 °C), still air
AMBIENT OPERATING TEMP	50 - 104 °F (10 - 40 °C)
MAX ENCLOSURE TEMP	150 °F (65 °F)
INPUT LINE VOLTAGE	
SP200-11	108-132 VAC
SP200-21	216-264 VAC
INPUT LINE FREQUENCY	45 - 70 Hz
NOMINAL OUTPUT	35 Watts @ 72°F (22°C) ambient
OUTPUT FREQUENCY	470 KHz
POWER CORD (3-WIRE)	6 ft (183 cm) - 18/3 SJT
HANDLE/CORD ASSY	4 ft (122 cm) carbon loaded silicone, shielded
LENGTH X WIDTH X HEIGHT	4.25" x 3.5" x 6.7" (10.8 x 8.9 x 17.0 cm)
WEIGHT (TOTAL UNIT)	5.0 lbs (2.3 kg)
WEIGHT (HANDPIECE)	2.0 oz (57 g)
STANDARDS COMPLIANCE	MIL-STD-2000, -1686, -45743E , WS-6536D and E
AGENCY APPROVALS	ETL Listed, FCC Approved
ESD MATERIALS	10 ⁵ -10 ¹¹ ohm/square per ASTM D257 (10 ⁵ -10 ⁹ ohm/square where possible)

DESOLDER TOOL

VACUUM RISE TIME	25 ms to 12 inches Hg
HANDPIECE ASSY	5 ft (152 cm) carbon loaded silicone, shielded
DIMENSIONS	
LENGTH X WIDTH X HEIGHT	8.0" x 6.0" 7.0" 20.3 x 15.2 x 17.8 cm
WEIGHT (TOTAL UNIT)	9.0 lbs (4.1 kg)
WEIGHT (DESOLDER TOOL)	8.0 oz (227 g)
STANDARDS COMPLIANCE	
MIL-STD-2000, -1686, -45743E , WS-6536D and E	
ESD 10 ⁵ -10 ¹¹ ohm/square per ASTM D257	
(ESD 10 ⁵ -10 ⁹ ohm/square where possible)	

RM3E SOLDERING/REWORK HANDPIECE

WEIGHT	56.7 g
HANDLE CORD ASSEMBLY	6 ft (183 cm) carbon loaded silicone, shielded
ESD MATERIALS	10 ⁵ - 10 ¹² ohm/square as per ASTM D257 (10 ⁵ - 10 ⁹ ohm/square where possible)

TALON HANDPIECE

WEIGHT	2.0 oz (56.7 g)
HANDLE CORD ASSEMBLY	6 ft (183 cm) carbon loaded silicone, shielded
ESD MATERIALS	10 ⁵ - 10 ¹⁵ ohm/square as per ASTM D257 (10 ⁵ - 10 ⁹ ohm/square where possible)

MX DESOLDERING HANDPIECE

INPUT AIR PRESSURE	60-100 psig required
VACUUM	18 inches (45.7cm) Hg minimum
WEIGHT	10.5 oz (298 g)
HANDLE CORD ASSEMBLY	6 ft (183 cm) carbon loaded silicone, shielded
ESD MATERIALS	10 ⁵ - 10 ¹⁵ ohm/square as per ASTM D257 (10 ⁵ - 10 ⁹ ohm/square where possible)

TIP CARTRIDGES

STTC STARTUP POWER	500 Series > 25 Watts 600 Series > 25 Watts 700 Series > 30 Watts
MAXIMUM TEMPERATURE	500 Series ≤ 575°F (302°C) 600 Series ≤ 675°F (352°C) 700 Series ≤ 775°F (405°C)

WARRANTY

Metcal, Inc. warrants Power Supplies against any defects in materials or workmanship for two (2) years from the date of purchase by the original owner. All Handle/Cord Assemblies and the DS1 Desolder Tool are warranted against any defects in materials or workmanship for one (1) year from the date of purchase by the original owner.

Metcal warrants all other products except consumables against any defects in materials or workmanship for ninety (90) days from the date of purchase by the original owner. This Warranty excludes normal maintenance and shall not apply to any opened, misused, abused, altered or damaged items.

Metcal warrants that the heater in its STTC, STD, TATC, and SSC tip cartridges will operate according to specifications for the lifetime of the tip plating. Because tip plating is mainly dependent upon the user's application and practices, tip cartridges are not warranted for plating wear. Tip cartridges are warranted against any defects in materials or workmanship. Misused, abused, altered or damaged tip cartridges are not warranted.

All tip cartridges that fail to heat will be repaired or replaced at Metcal's option.

Metcal will repair or replace (at Metcal's sole option) a Power Supply that fails in normal use within three (3) years after the expiration of the two-year warranty at the then current repair or exchange rate. This offer does not apply to any previously opened, modified, repaired, altered, misused or damaged Power Supply.

This Warranty excludes normal maintenance and shall not apply to any opened, misused, abused, altered or damaged items. If the product should become defective within the warranty period, Metcal, Inc., will repair or replace it free of charge at its sole option. The replacement item(s) will be shipped, freight prepaid, to the original purchaser.

The warranty period will start from the date of purchase. If the date of purchase cannot be substantiated, the date of manufacture will be used as the start of the warranty period.

TRAINING, APPLICATIONS SUPPORT, AND MORE

TRAINING

Metcal offers a full line of training classes through a network of industry trainers. There are courses specially designed for beginning operators, as well as advanced technique courses suitable for trainers or experienced SMT Technicians. Hands-on training ensures practical experience that can be brought back to the plant. In addition, Metcal offers custom training. We can train your people to your specific industrial, military, or vocational needs. Courses can be held on-site or off-site. Call your local Metcal Representative, or contact training@metcal.com for more information.

APPLICATIONS SUPPORT

Metcal's Answer Team, comprised of a unique network of engineers, industry leaders, product managers, operators, and experienced representatives and distributors can work with you to solve your most pressing problems. Whether you need advice on removing a new package, want to know if the new solder you are thinking of using requires any special techniques, or need a custom tip or product modification, Metcal can help. Also, Metcal regularly sponsors seminars and user groups, and publishes papers on important topics in the industry. If you need help, visit our website, contact Metcal at 01703 619841, your local Metcal Distributor or Representative, or contact answers@metcal.com.

THE REWORK AND REPAIR EXCHANGE AT [WWW.METCAL.COM](http://www.metcal.com)

As an industry service, Metcal sponsors the Rework and Repair Exchange on the World Wide Web at <http://www.metcal.com>. The Exchange is a comprehensive forum for discussion on a variety of industry topics. In addition, it contains the most comprehensive links to other web sites in the industry, including a link to Metcal's own product information and technical papers site, as well as to organisations such as SMTA, magazines such as Circuits Assembly, and sites for contract manufacturers, suppliers, trainers, and more.



AIRIDUS FUME EXTRACTION



Airidus is a true breath of fresh air in the stagnant world of fume extraction. Created by the best industry professionals from OK Industries and Metcal, Airidus provides a revolutionary approach to air purification. Not only do all Airidus systems meet all international guidelines set by health and safety organisations, but they exceed all other systems in ease of monitoring, ensuring that

the systems put in place to safeguard operators today are the systems that will continue to safeguard operators for years to come. Whether you choose our comprehensive installation or do-it-yourself kits, choose high pressure or high volume systems, choose a solution for one soldering iron or a whole production area - our quiet, reliable systems will be the best solution for your needs.

UNDERSTANDING THE NEED FOR FUME EXTRACTION

In many production and rework operations, from hand soldering, to using solder pots, adhesives and sealants, airborne particulates are produced that research has shown to be a serious health hazard. Most solder contains a rosin based flux, which, when heated, produces a substance called colophony.

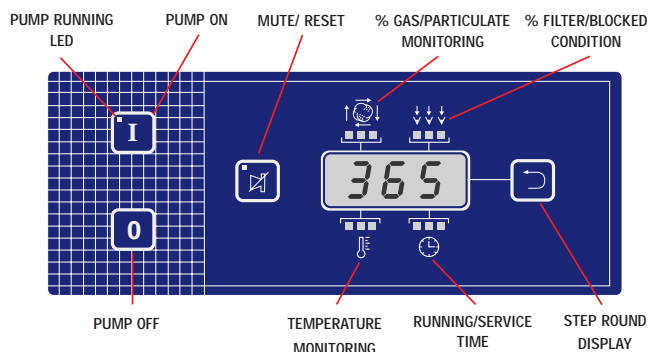
AIRIDUS TECHNOLOGY

Airidus have developed a revolutionary and unique approach to protecting workers from hazardous fumes by introducing total monitoring of air and purification released into the workplace and environment.



CONTROL PANEL

A user-friendly microprocessor control panel manages the system. The touch-sensitive backlit digital display makes it easy to monitor filter life, gas/particulate conditions, temperature, and running/service time. Auto diagnostics give audible and visual prompts that warn the operator of impending service requirements.

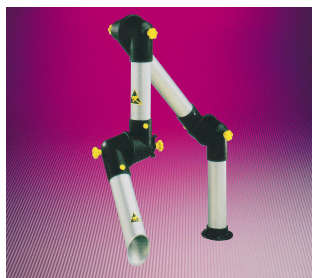
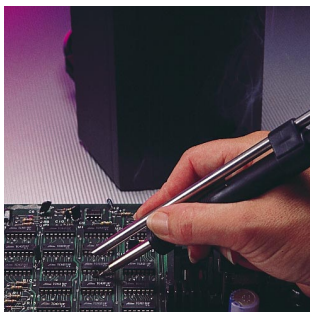


CHOOSING THE RIGHT SYSTEM

Airidus offer a wide range of solutions for extraction and purification of fumes. Selection of the correct method is dependant upon the application as well as operator preference. In some cases, for better versatility, it may be necessary to use a mix of extraction methods.

TIP EXTRACTION

For hand soldering in applications such as PCB Assembly, Tip Extraction is the most effective and economical solution. This method allows continuous removal of fumes from the iron while in use or at rest. Systems are available for light to heavy hand soldering.



ARM EXTRACTION

For larger fume creating processes such as adhesive application, solder pots or heavy soldering, flexi or articulating arms of varying diameters are recommended. A wide range of nozzles are available for various applications.